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Pain education in pre-registration professional health courses: a protocol for a scoping review

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ABSTRACT

Introduction: Pain is a global health concern causing significant health and social problems with evidence that patients experiencing pain are receiving inadequate care. The content of pain education in pre-registration professional health courses is thought to be lacking both in the UK and internationally which is unacceptable considering the prevalence of pain. Evaluating the effect of education is complex in that the outcome (improved healthcare) is some distance from the educational approach. Best evidence medical education has been proposed as a continuum between 'opinion-based teaching' and 'evidence-based teaching'. Searching for evidence to inform best practice in health education is complex. A scoping review provides a practical and comprehensive strategy to locate and synthesise literature of varied methodology including reports from a variety of sources. The aim of this article is to describe a protocol for a scoping review that will locate, map and report research, guidelines and policies for pain education in pre-registration professional health courses. The extent, range and nature of reports will be examined, and where possible titles for potential systematic review will be identified.

Methods and analysis: Reports will be included for review that are directly relevant to the development of the pain curriculum in pre-registration professional health courses, eg nursing, medicine, physiotherapy. The search strategy will identify reports that include [pain] AND [pre-registration education or curriculum] AND [health professionals] in the title or abstract. Two authors will independently screen retrieved studies against eligibility criteria. A numerical analysis regarding the extent, nature and distribution of reports will be given along with a narrative synthesis to describe characteristics of relevant reports.

Ethics and dissemination: Formal ethical approval was not required to undertake this scoping review. Findings will be published in scientific peer-reviewed journals and via conference presentations.

Strengths and limitations of this study

- This protocol provides a practical and comprehensive strategy to locate and synthesise literature to inform the advancement of pain education in professional health courses.
- The method allows a wide range of methodological approaches to be included, synthesising information from multiple sources.
- It is not the purpose of this review to assess the methodological quality of included reports. It is likely that reports will be heterogeneous in nature.
- Review team members include two physiotherapists, one nurse and one physiologist with expertise in the science of pain and its management. The team have experience in undertaking Cochrane reviews, Meta-ethnography and Scoping reviews.

INTRODUCTION

The prevalence of pain lasting more than 3 months (chronic pain) is estimated to be as high as 27% worldwide equating to ~17 million people in the UK alone.[1] Patients living with chronic pain have complex health and social care needs, which are well documented in the literature; however, there is evidence that these needs are not currently being met.[2] Nearly half of adults experiencing chronic pain in Europe reported receiving inadequate pain management with chronic pain seriously affecting the quality of social and working lives.[3]

Evaluating the effect of health education and training on patient outcome is complex in that the outcome (improved healthcare) is some distance from the education received in pre-registration training. Best evidence medical education (BEME) has been proposed as a continuum between 'opinion-based teaching' and 'evidence-based teaching'.[4] Despite these complexities, health education professionals are increasingly expected to base their practice on best evidence. Searching for evidence to inform best practice in health education is difficult; there are few sources dedicated to health education itself; therefore, it is necessary to search a wide range of medical and education databases.[5]

There is some evidence that current pain education provision across professional health courses is insufficient; documented pain teaching in the majority of European medical schools has been found to be inadequate given the prevalence and burden of pain described.[6] A survey describing the nature, content and learning strategies for pain curricula in undergraduate healthcare programmes in major universities in the UK found pain education to be variable across and within disciplines.[7]

Currently, there is no synthesis of available evidence to inform appropriate content and structure of pain education in professional health courses. This is likely due to the heterogeneous nature of relevant information, for example, health courses may inform their curricula by incorporating research literature, guidance from professional regulatory bodies and information provided by specialist membership organisations such as the International Association for the Study of Pain (IASP). Considering the known health, social and economic burden of pain, further investigation to determine the type and location of literature available to inform professional health curricula is warranted.

There are various approaches available for reviewing literature. A scoping review methodology is useful when examining a broad topic to systematically map the literature, identify key concepts, sources of evidence and identify research gaps.[8 9] A scoping review differs from a systematic review by sourcing literature through online databases and key organisational websites.[10] The differences between the two methodologies are demonstrated in table 1.

A scoping review is needed to determine the breadth and depth of research in this area which will inform the development of a systematic review should appropriate research reports be identified. A scoping review also allows for a systematic search of key websites that are vital to source policy documents relevant to pain education. It is not the purpose of a scoping review to grade literature based on quality of evidence.

Table 1 Scoping review versus systematic review methodology

Scoping review	Systematic review
The research question(s) develop as part of an iterative process with increasing familiarity with the literature.	Research question defined from the outset. The results of the study answer the focused research question.
Data extraction may be broad depending on retrieved reports.	Predefined parameters for data extraction
No grading of reports based on quality	Formal quality grading of included reports
Quantitative and qualitative synthesis of results	Quantitative synthesis usually performed

Aim(s)

The aim of this article is to describe a protocol for a scoping review which will locate, map and report literature that informs the content and structure of pain education in pre-registration professional health courses. The scoping review will:

1. Review the extent, range and nature of research that has examined or evaluated pain education in professional health courses from online education and medical databases, for example, MEDLINE/ERIC;
2. Review the extent and nature of guidance for pain education from key organisational websites, for example, professional regulatory bodies, membership and special interest organisations;
3. Determine whether there is sufficient research to be able to conduct a full systematic review in line with BEME standards.

A conceptual framework is included to demonstrate the underlying theory and action that will be taken to achieve the aim of this protocol (figure 1).

METHODS AND ANALYSIS

A two-part process will be conducted using an established scoping review framework (figure 2).[8]

Stage 1: identifying the research question

Initial literature searching will be conducted to locate reports to answer the following research question: What information is available from online databases and key organisational websites to inform pain education provision in pre-registration professional health programmes? An iterative process will be used where the research question will be refined with increasing familiarity with the literature. This will be done by one researcher (KT) running preliminary searches to pilot research reports that are received. Retrieved reports will be discussed among the research team, so that database searching can be refined.

Stage 2: identifying relevant studies

Stage 2 will be conducted in two parts. Part (a) will identify studies that have investigated the content or structure of pain education in professional health courses from online medical and education databases. The following electronic databases will be searched: MEDLINE, CINAHL, ERIC, AMED, HMIC and EBM reviews. The following search terms will be used; [pain] AND [education OR curriculum] AND [physiotherapy OR allied health occupations OR nursing OR medicine]. Exploded MeSH or Thesaurus search terms will be used within databases where possible to increase the number of retrieved reports.

Table 2 demonstrates the PICOS (Population, Intervention, Comparison, Outcome, Study design) that will be used to guide the initial inclusion/exclusion of research reports.

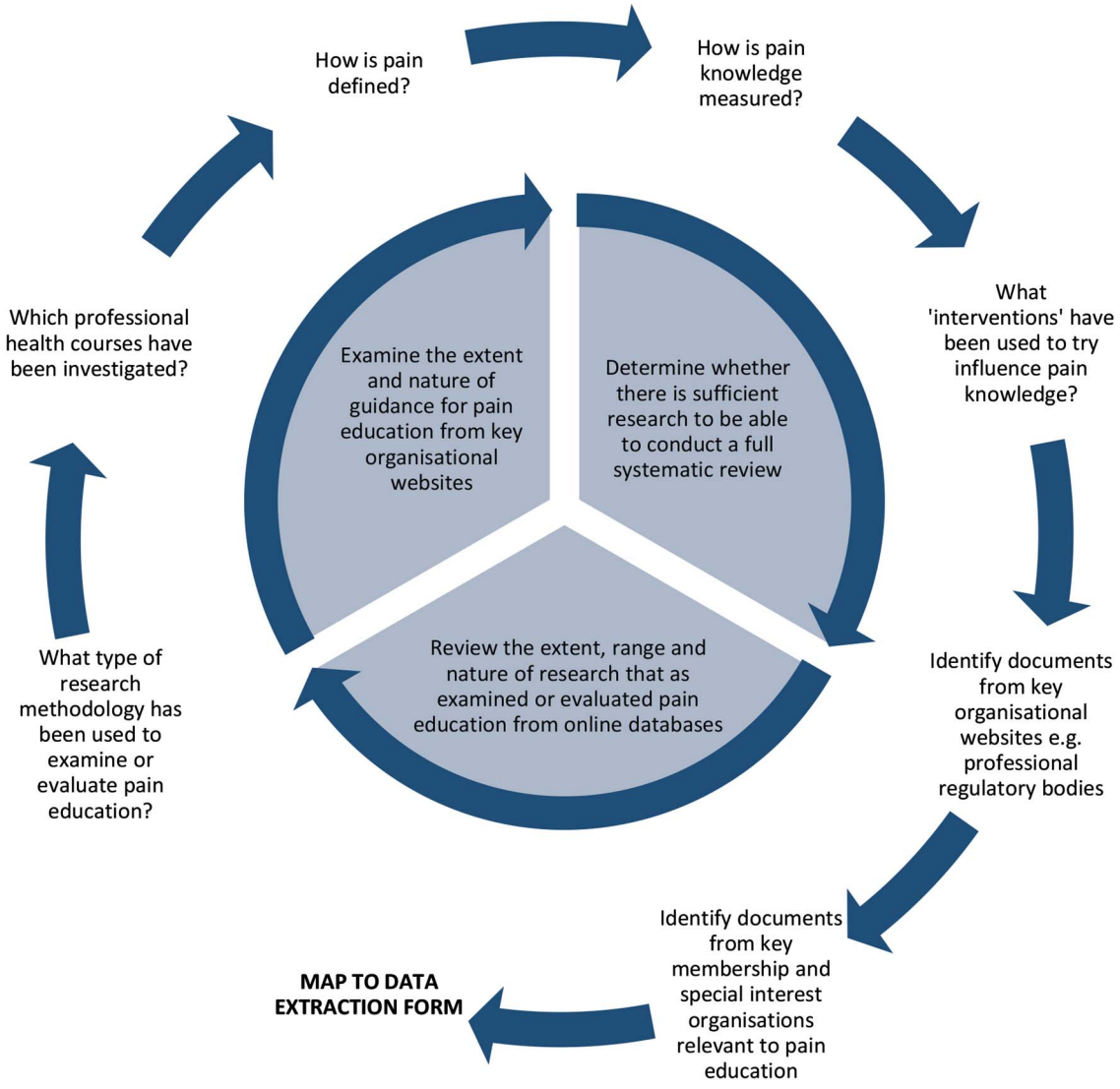

Figure 1 Conceptual framework.

Part (b) will gather information from policies, guidelines and frameworks relevant to pain education for professional health courses. The search will be extended to include websites of professional and regulatory bodies, that is, Health and Care Professions Council (HCPC), General Medical Council (GMC), Nursing and Midwifery Council (NMC) and websites of specialist organisations, that is, IASP.

Stage 3: study selection

The full set of titles and abstracts retrieved in part (a) will be independently screened for eligibility by two authors (KT and JM) after which the level of agreement will be discussed. The two authors will meet to pilot the study selection criteria and compare reports included at the beginning and midway through the screening process. A third reviewer (MB) will act as arbiter for any reports where agreement cannot be achieved. The following eligibility criteria will be applied:

- Published in the English language;
- Directly relevant to the pain curriculum in pre-registration professional health courses (ie, nursing, medicine, allied health professions such as physiotherapy);
- Human participants;
- Extractable data;
- No date restriction.

Reports will be excluded that have no relevance to the pain curriculum in professional health courses or are in reference to patient or postgraduate education.

The full text of all reports that meet the inclusion criteria will be retrieved and the content screened against eligibility criteria developed as part of the iterative review process. If the relevance of a piece of literature is unclear from the abstract, then the full report will be retrieved at which point the final decision will be made regarding inclusion in the review.

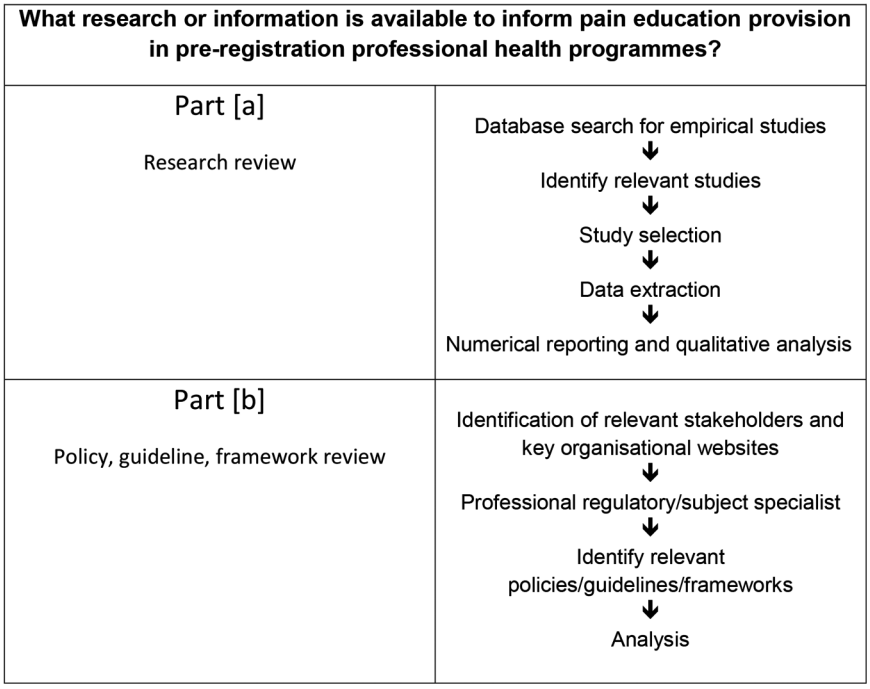

Figure 2 Scoping review methodology.

Stage 4: charting the data

General information about each report (author, year of publication, study or report location, type of report, purpose and main findings) will be extracted by one author (KT). An example data extraction framework is included in table 2. The review team (KT, JM, MIJ, MB) include two physiotherapists, one nurse and one physiologist. The team will meet to pilot data extraction after the first 10 papers. The data extraction form will be reviewed to evaluate whether it is extracting information that meets the aims of the scoping review. The method and paperwork used to extract data will be subsequently developed by all authors. Data extraction (table 3) has been developed and mapped to the conceptual framework (figure 1) that underpins the aim of this scoping review.

Stage 5: collating, summarising and reporting the results

The scoping review will locate, map and report literature that informs the content and structure of pain education rather than report on methodological quality or provide any metasynthesis of data. Results will be collated, summarised and reported in the following way:

Table 2 PICOS

*P*opulation	Nurses Medics Allied health professionals (see online supplementary file—search strategy for more detail)
*I*ntervention	Pain education in pre-registration training
*C*omparison	No criteria
*O*utcome	Examination or evaluation of pain education or pain knowledge
*S*tudy design	Not restricted, for example, surveys, RCT's, case studies, cohort studies will all be included

RCT, randomised controlled trial.

Numerical analysis

A numerical analysis will be performed on the extent, nature and distribution of reports included in the review. Tables and charts will be produced demonstrating:

Part (a)—research review

- The distribution of the studies geographically;
- The timescale in terms of year of publication;
- The type and range of education interventions used;
- How pain knowledge is measured;
- The research methods adopted and study design;
- The professional health course that the publication refers to (eg, physiotherapy, nursing, medicine, etc).

Part (b)—policy, framework, guideline website review

- The type of report, that is, policy document, guideline, framework;
- The distribution of the reports geographically, and source of information;
- The timescale in terms of year of publication;
- The professional health course that the report refers to (eg, physiotherapy, nursing, medicine, etc).

Narrative synthesis

Once results have been organised and presented numerically, a framework for presenting a narrative synthesis will be identified, for example, a thematic analysis of qualitative reports.[11] The exact format cannot be established until data are charted and discussed with the review team. Characteristics of relevant papers will be analysed and where possible mapped to a framework demonstrating features of pain curriculum design.

Table 3 Data extraction framework

Bibliometrics	Characteristics
Authors	
Country published/study completed	
Year of publication	
Type of paper	For example, Primary research Review Commentary/ discussion Theoretical/conceptual Policy document Published report Unpublished report Other
Study design	For example, Systematic review RCT Controlled trial Cohort One group before/after study Survey Qualitative study Case study Cost-effectiveness study, Literature review NA Other
How is pain defined?	For example, Acute Subacute Chronic
Extractable data?	
Which professional health courses have been investigated?	For example, Physiotherapy Nursing Occupational therapy Medicine Other
How is pain knowledge measured?	
What 'interventions' have been used to try measure pain knowledge?	
Key organisational website and type of document	For example, Professional regulatory Special interest

NA, not available; RCT, randomised controlled trial.

Conceptual analysis

Concepts (notions/ideas) relating to pain education will be mapped and presented in a graphical format.

CONCLUSION

This scoping review protocol outlines the process we will follow to identify research or information that is available to inform pain education provision in pre-registration professional health programmes. This evidence synthesis will describe what information is available, who the key stakeholders are in pain education and where the information is located. Qualitative analysis will examine and record recurrent themes across the data set, where possible identifying potential areas of good practice that can be taken forward for future research.

ETHICS AND DISSEMINATION

Formal ethical approval was not required to undertake this scoping review. Findings will be published in scientific peer-reviewed journals and via conference presentations.

Contributors All authors have made a substantive intellectual contribution to the development of this protocol. All authors were involved in developing the review question and review design. KT, MB and MIJ identified the framework from which KT developed and tested search terms. KT, MB and JM developed the data extraction framework, which was then further developed by input from all team members. KT initiated the first draft of the manuscript which was then followed by iterations with substantial input from all of the authors. All authors approve the final version of the manuscript.

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